definite bacillus represent an added infection. In this country they are commonly included under the one head of seborrheic eczema although French authors classify them as eczemaform, psoriasiform and so forth according to the disease which they most closely resemble.

Without attempting the finer distinctions we may interpret as seborrheic eczema thickened, reddened patches which may be regular or irregular in form but which have sharply defined margins and are covered with greasy scales. Between the typical seborrheic eczema with its characteristic yellowish greasy scales and the typical psoriasis with its silvery dry scales the distinction is clear but the less typical forms of each disease merge so insensibly into one another that the differentiation, particularly from the lesions alone, may be extremely difficult. Indeed Walker of Edinburgh contends strongly that the two diseases are identical.

True eczema may be differentiated from the seborrheic form as follows:

True eczema does not affect particularly the special seats of seborrheic disease. True eczema itches severely, seborrheic eczema only slightly. True eczema has poorly defined margins—in seborrheic eczema the outline is sharp. In true eczema there is at some time an exudation of serum—in seborrheic eczema this is absent. True eczema is wanting in the greasy aspect which is special to the seborrheic variety.

Certain individuals seem to be subject to seborrheic affections just as others are inclined to gouty or rheumatic symptoms, one manifestation after another following in definite sequence. This is especially noticeable about the face.

Beginning in adolescence the face becomes oily and appears shiny. About the nose particularly the pores become unduly prominent. Finally some of the pores or ducts become occluded and the face is dotted with blackheads. These blackheads becoming secondarily infected, papules and pustules of acne vulgaris are formed. Without vigorous treatment the acne may persist to young adult life and sometimes well along towards middle age. Following come the seborrheic disorders of the bearded region chiefly evidenced as greasy scaliness at times quiescent and at times aggravated. Coincidentally the scalp sequence has been steadily approaching or has become seborrheic alopecia. The entire picture represents what may be called the seborrheic state.

As the subject of this series passes middle age he becomes more and more prone to circumscribed patches of hyperkeratosis or hypertrophy of the stratum corneum. These patches are often called *senile keratoses*. More rarely cutaneous horns occur. There may be no histological relation between these affections and seborrhea but their most frequent occurrence in subjects of the seborrheic state is clinically incontestable. Their relationship to various forms of cutaneous epitheliomata is so generally conceded as to justify their grouping under the head of precancerous affections.

Along with this same group, occurring in the same subjects, certain crusted patches are seen. Often they develop upon a small keratosic area. They occur not only in subjects of seborrheic life history but affect especially those situations most particularly favored by seborrhea, and carry with them crusts of the same greasy quality which we are accustomed to see in the seborrheic disorders. Upon removing the yellowish, greasy crust an ulceration is found upon which the crust is quickly renewed.

We are now dealing definitely with an epithelioma and the series which began with a commonplace dandruff or an oily nose has passed through successive phases until malignancy is attained.

Let the conclusion drawn from this presentation not be unwarranted. One who watches the development of seborrheic disease, sees the manifold phases which it demonstrates in itself, sees how it modifies the appearance of other concurrent dermatoses, must be impressed with its potentiality. While the etiology of cancer is unknown we may be at least permitted to infer from the abundance of clinical evidence that the seborrheic state renders the skin much more than ordinarily vulnerable to the epitheliomata.

The obvious moral is that just as we excise moles and pigmented nevi for fear of subsequent malignancy, just so should we treat radically the group of precancerous affections related to seborrhea, but better yet treat early and persistently all seborrheic manifestations, directing special attention to the scalp as their ultimate source.

As the disease is of bacterial origin local treatment is generally sufficient. General conditions may play an important part in the production of such sequels as seborrheic eczema and there the treatment is along constitutional lines according to the indications which exist. In pure seborrhea sulphur and resorcin are the most generally reliable remedies. For the more scaly forms of scalp disease the tar preparations are indicated.

CLINICAL FEATURES OF INFLUENZA SINCE THE PANDEMIC OF 1889-1890.*

By HERBERT C. MOFFITT, M. D., San Francisco.

When the kind invitation from your committee came to me a short time since to read a paper upon opsonic work and bacteriotherapy, it was accepted without due consideration. It needed little reflection to demonstrate that my personal experience has been as yet entirely too meagre to admit of a paper of any value. We all too hastily try to assimilate and incorporate new teachings; any new method of investigation or treatment must, after all, be judged by the results of one's own work with it in the clinic. Although encouraged by results of some cases of vaccine therapy, it seems wiser for me at present to counsel discrimination and caution with the method rather than to encourage its widespread application to general practise. With this apology for not spending time with a subject so recently introduced and still waiting credentials, it is my hope that a few minutes may profitably be spent in recalling certain features of an old and familiar friend.

* Read before the Santa Clara County Medical Society, May 20, 1908.

"Influenza," like "rheumatism," has been a term most generously misapplied. It should be recognized that the affection so often described as "clinically typical influenza" is frequently due to infection with pneumococci, streptococci, staphylococci or micrococcus catarrhalis. Some weeks ago a young woman was seen in San Rafael with a peculiar lung condition. She had been ill for three weeks with cough, temperature, great prostration and most unusual cardiac depression. The signs in the lungs had been equivocal, variable bronchitis and shifting areas of atelectasis and edema. When seen she was cyanotic, markedly dyspneic with normal temperature and a pulse of 120; there were no patches of consolidation, but over many areas a tympanitic note with faint breathing and multitudes of fine, dry and sticky rales. The sputum was profuse, greenish and purulent. In light of several cases seen recently, there seemed little doubt that influenza best explained the clinical picture, but nothing was found in the sputum but pneumococci and staphylococci. The convalescence has been as tedious and depression as marked as in true influenza.

D. J. Davis [1] has recently emphasized anew how rarely influenza bacilli are found in the cases reported as "typical clinical influenza," and Jehle [2] lately reported a grippe epidemic due to micrococcus catarrhalis. Despite the temptation to bring many indefinite febricula, gastro-intestinal attacks and obscure nervous symptoms under this convenient cloak, therefore, it is wise to demand that the diagnosis influenza rest at least in part on demonstration of the bacilli. We no longer believe, however, with Wasserman [3] that "Wo Influenza Bacillen, da ist Influenza." For the present it is best to regard as influenza bacilli the many varieties of closely related organisms that have been described under the names of "pseudo-influenza bacillus," Jundell's bacillus catarrhalis, Mueller's trachoma bacillus, Eppendorf's pertussis bacillus, and to recognize that they may frequently be found in the sputum without any clinical evidence of influenza. Pfeiffer [4] described chronic forms of influenza lasting weeks or months, and occurring most often in patients with lungs rendered less resistant by previous disease. Kretz [5] in 1897 showed that in forty-seven patients with influenza bacilli in the sputum only twelve had any clinical symptoms of the disease. Kruse, [6] as did Pfeiffer and Wasserman, found influenza bacilli over long periods in phthisical cases with cavities. Jehle, [7] Liebscher, [8] Davis, [1] Auerbach [9] and many others have written of the frequent occurrence of the bacilli in the tonsils and as a mixed infection in scarlatina, measles, varicella and diphtheria. Lord [10] writes: "In a series of 186 sputa, from cases unselected except to exclude those with tubercle bacilli, organisms resembling influenza bacilli were found in 59 per cent and in almost pure culture in 25 per cent. In eight patients their constant presence in the sputum was demonstrated for two and one-half years." Influenza bacilli in the sputum, therefore, by no means always indicate the disease influenza, and so-called typical influenza may be due to infection with other organisms. Here, as elsewhere, diagnosis rests solidly only upon the proper union of the laboratory with the clinic.

Since the pandemic, the respiratory type of the disease has probably been of most frequent occurrence. It is the most interesting, as being the most capable of definite proof, and will be the form chiefly considered in this paper. Those who wish descriptions of the varied types of the disease during the last years may read the entertaining symposium in the *Practitioner* of January, 1907, the article of Lord in Osler's Modern Medicine, and the excellent paper of Ortner in the *Deutsche Klinik*.

Why there should be definite influenza years we do not know, any more than why the virulence of other infections varies. This has been an influenza winter, and a number of cases of interest have been observed. They are best dealt with under the headings of

1. Influenza Bronchitis.
2. Influenza Pneumonia.
3. Bronchiectasis with Influenza.
4. Influenza as a Modifier of Other Affections.

1. Influenza Bronchitis. Some months ago a young man was referred to me by a throat specialist on account of paroxysms of cough that had been added to a rhinitis and pharyngitis of two weeks' standing. The cough was tremendously distressing, occurred in racking attacks, was most often dry but at times brought up large mouthfuls of greenish sputum. There was no temperature, but the man felt wretched and was perfectly willing to give up his active business. Beyond hyperresonance of the chest, there was little on examination save a few piping rales beneath the right clavicle. Influenza was suggested by the violence of the cough, and the sputum showed almost a pure culture of the bacilli. A mistake was made in sending the patient South instead of to bed; convalescence was slow and the cough persisted for weeks. Last year a woman was seen complaining of severe cough, anorexia and prostration. The illness had started acutely two weeks before with cough and slight fever. There was no temperature while under observation, but distressing cough, profuse expectoration and drenching sweats. Influenza was suspected from the peculiar chest signs, and the profuse purulent sputum gave a pure culture of the bacilli. Respiration was 30 to the minute. There was a remarkable bronchitis confined to the upper right lobe. This was hyperresonant and filled with most varied sounds—piping, groaning, complaining squeaks mingled with sticky bubbling rales of all sizes. Small crackling rales exploded along the sternal border of the lung, and there were quick changes of breath sounds and rales during the inspiratory phase. Ortner well describes this remarkable cogwheel, varying, metamorphosed respiration. Goodhart speaks of a "glutinous bronchitis," of "sharp sticky rales of a quality quite peculiar to the disease." The sudden change of a sharp inspiratory murmur to an amphoric whiff with rales of a metallic ring is always suggestive of in-

fluenza; dilatation of the smaller bronchi, which may develop acutely (Leichtenstern) probably accounts for the auscultatory phenomena. The acute influenza bronchitis is frequently patchy, often confined to an upper lobe, and very apt rapidly to descend into the finest tubes. When diffuse, dyspnea is a marked feature. Graves long ago called attention to this extreme dyspnea; Sippy considers that marked dyspnea, paroxysms of cough and excessive sputum are symptoms that always should suggest influenza. The bronchitis may be dry or may be marked by profuse expectoration. Greenish or heavy purulent nummular sputum is suggestive, but not characteristic of influenza. Not infrequently the condition runs a subacute or chronic course. The peculiar rough cogwheel inspiration with rales of varying size persists over a circumscribed area of the lung, and awakens suspicion of a tubercular process. There is even more doubt if the condition be found without history of an acute onset—nothing but a most thorough examination of the patient and perhaps the tuberculin reaction will then decide.

Chronic recurrent bronchitis may be of influenzal origin. Some months ago a physician of 35 consulted me concerning a cough which had recurred over a period of 18 years. In 1890 in Germany he had a severe "cold"—this was the pandemic year. This left him with occasional cough, which grew worse in an attack called influenza in 1893 in Switzerland. The right apex was said to be involved and "congested." He went to Egypt, but the cough persisted; he lost some weight, and he returned to Switzerland, where the cough completely disappeared in summer to reappear each winter afterward. He came to California six years ago, and has been fairly well and active. His pulse is always rapid, and he finds it difficult to keep at weight and in proper working trim. There has been some cough each winter. At times there is a lot of sputum—a mouthful may come up suddenly when he talks or lies down. He feels that it comes from the right lung opposite the fourth rib in the parasternal line. On examination there was no emphysema, no dullness; the right lung border moved less well on inspiration in the scapular line; there was a decidedly prolonged, roughened expiration in the third right interspace in the parasternal line and a few dry and moist rales on inspiration; just inside the scapular spine on the right there was whispered bronchophony over a small area. A radiograph showed more marked drawing of the right bronchial tree; a tuberculin reaction was negative; the sputum was greenish, not offensive and showed an absolutely pure culture of influenza bacilli. There seems little doubt that this is an instance of chronic recurrent influenza with slight bronchiectasis.

Finkler [11] long ago noted the frequent addition of influenza to bronchitis of another kind. This year two cases of chronic emphysema with winter cough were seen, in which the history suggested that the influential bronchitis demonstrated in hospital was a late addition to the old picture.

In a young woman, asthma had developed after an acute bronchitis four years before. Beyond emphysema and dry bronchitis, the lungs were negative; there was no reaction to tuberculin and the sputum showed a few influenza bacilli, no eosinophiles and no crystals or spirals. An acute attack of purulent bronchitis with asthma led to the appearance of multitudes of influenza bacilli in the sputum.

Apart from the peculiarities noted above, signs peculiar to influenzal infection seem to me of little value. Occasionally one notes the tender points over the trigeminal branches and trachea upon which Ortner lays stress, and the red streak on the anterior faucial pillar described by Franke. [12] The flabby, creamy tongue is not at all constant.

2. Influenza Pneumonia. In January, a girl of 6 was brought for examination on account of malnutrition and indefinite abdominal attacks that had recurred at intervals of two or three months for nearly two years. These attacks were afebrile and marked by colicy pain and diarrhea for two or three days; they suggested larval appendicitis or the intestinal symptoms that are seen not infrequently in children with adenoids and large tonsils. The tonsils were very large and ragged, and they were removed together with a large adenoid some days later by Dr. Selfridge. Unfortunately no cultures were taken from the tonsils. Three days after the operation an acute bronchitis developed which, from the beginning, was marked by violent paroxysms of coughing. The intensity of the paroxysms led to examination of the sputum, which gave predominating influenza bacilli with a few pneumococci. Dyspnea and cyanosis were marked, the pulse rapid, and the bronchitis quickly became localized in two areas—one focus in the right upper lobe and the other at the left base. Consolidation was apparent at the end of ten days—small areas of bronchial respiration contrasting with neighboring foci of fine sticky rales. Nosebleed and vomiting frequently followed paroxyms of cough, and twice considerable blood was mixed with the purulent sputum, which the child brought up in unusual quantity. The heart became so dilated as to suggest pericardial effusion, the liver was large and tender, the spleen was not palpable, there was very slight temperature, and a leukocytosis of 12,000 with polynuclears 75%. The ophthalmo-tuberculin reaction was negative. The plugging of the bronchi to the left lower lobe suggested fluid at the base for some days, but as a rule a few sticky rales could be heard in the otherwise silent area. Gradually the chest cleared and convalescence was rapid. There are still moist rales to be heard below the right clavicle, but there is no consolidation and no cough. During the last months there has been no abdominal attack.

A man was seen two months since in hospital with signs that were first referred to tuberculosis of the right apex. There was history of some weeks' illness with fever, prostration and cough. There was infiltration above and below the right clavicle with varied signs on auscultation—bronchovesicular inspiration, bronchial expiration, dry and moist rales. There was no temperature, however, after the first

day in hospital; ophthalmo-tuberculin reaction was negative and the sputum showed only influenza bacilli. The lobe cleared rather quickly, and on discharge from the hospital two weeks later there were no signs. Some years ago a young woman was seen with infiltration of the right upper lobe involving the lung between the second and fourth ribs, not at the apex. Amphoric breathing and large metallic rales with crackling on inspiration, when breathing with the mouth open, gave evidence of cavity formation. There was a history of failing health and cough following a severe cold two years before. Fever had been occasionally noted; sputum was profuse, and there had been five or six attacks of slight hemoptysis. No elastic fibers or tubercle bacilli were found on repeated examinations; the tuberculin reaction was negative, and influenza bacilli were present in practically pure culture in the sputum.

As far back as 1837, Graves pointed out the unusual frequency of influenza pneumonia in the upper lobes, and emphasized the difficulty of differentiation from tuberculosis. The excellent articles of Lord show how closely the picture of chronic tuberculosis may be simulated. Leichtenstern was able to follow two cases over a period of two years to the autopsy table, and demonstrated the freedom from complication with tuberculosis. The cases with bronchiectasis and interstitial pneumonia are those particularly liable to lead to confusion, as there is cough, profuse expectoration, sweating, often temperature and wasting. There may, however, be simply delayed resolution without signs of breaking down. Ortner has seen resolution after six months' delay. If a lower lobe be affected and the bronchi plugged, as frequently occurs, repeated punctures may alone determine that we are dealing with delayed resolution and not with fluid.

Fraenkel [13] showed from numerous observations that shrinking of a portion of a lobe, an entire lobe or of the whole lung, was not an uncommon sequel of chronic influenzal pneumonia.

In March this year a woman of 33 was referred to me on account of attacks of pain in the gall-bladder region. These can be dismissed with the assurance that they were typical cholecystitis attacks. The condition of the left lung was far more interesting, though no complaint was made of any chest trouble aside from a cough of two weeks' standing. There was shrinking of the entire left chest with approximation of the ribs and a left convex scoliosis. The upper lobe above the scapular spine and second rib was intensely dull, the lower lobe below the angle of the scapula was absolutely flat. There was no respiration over the flat area at the base, and bronchial ins- and expiration was heard at the apex; over the scapula there was high pitched tympany, amphoric inspiration and large, consonating metallic rales. The signs indicated chronic infiltration, shrinking and bronchiectasis. A history was elicited of long continued cough and pneumonia nine years before, of severe cough two years before, when she was told of some "lung trouble," and of the present cough of three weeks' duration. There was no temperature apart from cholecystitis, but sweating was profuse. Ophthalmo-tuberculin reaction was negative. Leukocytes were 9,000 with 82% polynuclears. The sputum was very tenacious, slightly blood-tinged, and contained a pure culture of influenza bacilli. The chronic cirrhosis of the lung may well be of influenzal origin and there is undoubted bronchiectasis, probably secondary to the shrinking. It is interesting to speculate upon the nature of the cholecystitis, and operation will probably later decide.

3. Bronchiectasis with influenza. In July, 1905, a boy of 18 was referred to me by Dr. Henderson of Sacramento. He had been perfectly well until one year before, when his trouble started with an ordinary cold without fever. Cough was dry and occurred in severe paroxysms in the first two months, during which time he lost fifteen pounds. He then began to raise a large amount of purulent sputum, and in another month noticed that this became foul smelling. He was sent to Arizona without benefit, and continued to bring up large amounts of foul sputum. This often came with a gulp and sometimes rushed through his nose without great coughing efforts. The sputum in 1905 was thin, purulent, with extremely foul odor, separated into three layers on standing, and consisted almost wholly of degenerated pus cells. Elastic fibers were present, but no tubercle or other acid-fast bacilli. There were large numbers of bacteria, chiefly actively motile bacilli. Influenza bacilli were not found. There were signs of infiltration and small cavities in the right lower lobe and, as in other cases of my experience, these signs of bronchiectasis with peribronchial thickening were demonstrated far better by the ordinary methods of examination than by radiographs. The boy improved somewhat on forced feeding, myrtol and inhalations of creosote in the way suggested by Chaplin, but the sputum did not change essentially. In November, 1905, three ribs were resected by Dr. Henderson, and the right lung explored. There were very few adhesions over the lower lobe, no marked infiltration, although the lower lobe was more resistant. A discolored area near the base of the lung was punctured, but no cavity was entered. The sputum changed immediately after the operation, losing its putrid character, and the boy felt much better. There was free purulent discharge from the wound, but without odor. This improvement lasted two months, when cough and putrid expectoration returned—evidently the collapse of the lung caused the temporary betterment. In January, 1906, an irregular cavity in the lower lobe was entered through the former wound, and since then there has been little coughing but profuse discharge of foul pus from the wound. The patient gained weight and went back to work, but was sent me once again last December by Dr. Henderson to discuss the advisability of extensive rib resection. For a long time fluid introduced in the wound would be expectorated at once, but lately there has been little cough, and the communication seems closed. The patient has improved greatly in appearance, but finds the stench of the discharge almost unbearable;

and the wound must be dressed three times daily to be at all supportable. The signs at the right base are much more marked than before, and fairly typical signs of bronchiectasis in the left lower lobe have developed. Of great interest was the finding of many influenza bacilli in the smear from the lung sinus, although owing to the great numbers of associated bacteria, pure cultures were not isolated. From the history and clinical course, the most probably etiology of the bronchiectasis would seem to be influenza. Under treatment with X-ray and creosote inhalations and through the use of charcoal dressings, the discharge has diminished, and the odor gives little bother.

As noted above, Leichtenstern [14] described the acute development of bronchiectasis in influenza. This acute bronchiectasis may persist for weeks or months, and finally disappear or may remain stationary or may progress. The shrinking of chronic pneumonia may also lead to bronchiectasis, a mode of origin emphasized by Romberg [15]. The excellent articles of Lord and Boggs [16] give the most complete description of the clinical relations of influenza and bronchiectasis. One case of Boggs is particularly instructive as showing that influenza bacilli found in the sputum of patients with bronchiectasis over long periods of time may be decidedly virulent—a man of 60 with chronic cough and bronchiectasis showed influenza bacilli in the sputum, and later developed an empyema in which the bacilli were found in pure culture.

4. Modifications of Other Affections by Influenza. This is not the place to pass in review the multitudes of afflictions attributed to influenza. Gibson gives an excellent account of the influenza heart. Adams [17] has recently reviewed grippe meningitis, and Collins [18] writes of "Influenza in its Relation to Diseases of the Nervous System."

It is well to be cautious in referring indefinite nervous symptoms to influenza and to remember that tuberculosis and syphilis are more frequently to blame. It has not been my experience that influenza has anything to do with appendicitis, although some years ago a patient in hospital for influenza developed a mild appendix attack; Schultes [19] of the German writers, seems to have the most moderate views on this question. It has been my impression that, in grippe years, acute adenitis and glandular fever are more common; Tezenas du Montchel has written of general adenopathy in infants as a precursor of influenza. There is no doubt that influenza may influence most unfavorably a thyroid that before was not exactly normal. It does not seem to act much differently, however, from other acute pharyngeal or tonsillar infections in this respect. It has been my impression that a peculiar brachial neuritis, involving the axillary and musculospiral nerves chiefly, is more frequent when influenza is about, and that the same holds true for thrombophlebitis, spontaneous or after operation. The relations of influenza and typhoid have been much discussed. This year influenza bacilli were found in the sputum of a young man, whose chief symptoms were high temperature of sudden onset, cough, intense backache and headache. Temperature dropped after a few days, but headache persisted and marked optic neuritis of the left eye was demonstrated. Return of temperature after a week, a Widal reaction and bowel hemorrhages then plainly marked a complicating typhoid. Anders [20] published a paper some years ago upon "Typhoid Fever as a Complication and Sequel of Influenza," and Stollkund has written on the same subject.

A word may be added as to treatment. The patient with acute influenza belongs in bed, and it has seemed to me unwise to send subacute cases away to the country too early. Quinine is of some value in the acute stage. Large doses of creosote carbonate and intratracheal injections or instillations (after the manner of Mendel [22]) are of service in treatment of the bronchitis; 5% menthol or eucalyptol in oil, 10% iodoform in glycerine are the best preparations. For the chronic bronchitis, unresolved pneumonia or bronchiectasis X-ray should be tried. Creosote inhalations after the method advocated by Ewart and described by Chaplin [23] have in my experience given decided relief in bronchiectasis. In the diffuse bronchitis with failing heart in children, mustard packs as described by Huebner [24] should be given a thorough trial. It is my intention to treat the chronic carriers of bacilli, for example the patients mentioned above with bronchiectasis and chronic pneumonia, with autogenous vaccines.

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